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Fertility Decline in Finland – Causes and Consequences

Research into reasons of long term fertility decline and discussion starting point to define future implications.

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<p>Today the average age of the population in many countries is increasing due to low fertility rates. In order to maintain the current age structure, the fertility rate should be at a regeneration level of 2.1. An ageing population has an impact on a country's economy in terms of increasing health care costs, higher taxation, a greater dependency ratio, a shortage of workers, and potentially changes the economic structure as higher demand for goods from the elderly coupled with their pension savings will influence capital investments.</p> <p>There are two main methods for analysing the causes of low fertility. The first is a structural approach, where female education and participation in the labour market have increased alongside policy changes in relation to employment and economic conditions. The second approach is focused on understanding cultural factors, taking into consideration changing values and attitudes towards increased female independency. In Finland the 2014 fertility rate is just 1.78 and has been steadily declining since the WWII baby boom years. Post-WWII fertility decline can be explained partially through structural changes; however, the biggest effects have come from cultural changes. In order to avoid further fertility decline, and greater population ageing, the labour market should be restructured with a focus on gender balance and greater financial subsidies from the government to families. The deficit in the labour force in the short term can be compensated with migration, although in the long term this is not a sustainable solution.</p>	
Keywords	Fertility, Fertility rate, Ageing population

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1 Introduction

The world's population is constantly increasing and is estimated to reach 9.5 billion by 2050 (World Meters 2014). At the same time, many countries are facing up to the problems caused by a significantly ageing population. This change in the structure of society has major long-term consequences, particularly in terms of population decline and saturated economic growth (Amac et al. 2010). It also has an effect on dependency ratios, health care costs, and taxation levels, in addition to influencing the labour market. The country's economic sectors can also face changes as demand for goods targeted at the elderly increase. Additionally, a significant increase in retirement savings negatively influences capital investments.

The demographic of an ageing population can be defined in a variety of ways; one method is to focus on the increase of elderly individuals who are older than 60-65 years. The process of ageing differs between individual and society. The ageing of an individual is an inevitable process that affects everyone; however, the ageing process of the population reflects the structure of the entire nation. Total fertility contributes to the age structure of the population. The age structure will remain stable if the fertility rate is at a regeneration level of 2.1; however, a rate below this will cause a population to age. If this fertility rate continues to decline the size of the labour force as the main tax contributors, will be reduced to a level lower than the section of the population that is dependent on them (Alho 2008; Treynor 2008).

The definition of ageing has changed over time. In the 1800s a 60-year-old person was considered elderly and only 25% passed that benchmark. In the 21st century Western world 60-year-old is considered as middle aged and 80-year-olds receive considerable medical operations in order to continue their active life style. In conclusion, the life expectancy in 2000s is significantly higher than in the 1800s (Sanderson & Scherboy 2008). Ageing population results in considerable number of retirees compared to the working population, therefore, creating financial pressure in terms of supporting the retirees with the tax funds collected from the working population.

In countries where a significant fraction of the population is below 15 years, the age structure creates a financial burden in terms of supporting and educating the young,

therefore negatively affecting the gross domestic product (GDP), since only a minor fraction of the investment will add value to the national accounts (Amac et al. 2010). As the fertility declines, the working population eventually starts growing faster than the dependent fraction of the population, leading to economic growth (Bloom et al. 2003). In addition, the working population may start saving for retirement, therefore increasing the capital resource of the nation. Theoretically lower fertility can lead to growth that can later compensate the cost of supporting the elderly.

However, an ageing population is not economically sustainable since less and less people will contribute to the financial support given to the non-working population (Lee & Mason 2010). Replacement level fertility is crucial economically, however, in low-fertility countries, increasing the fertility rate is challenging. There are various factors contributing to low fertility.

1. There are fewer people in childbearing age; hence, fewer children are born.
2. Changed social norms influence the desired number of children.
3. Desired standard of living is determined by consumption standards of a household, resulting in possible constraint on the desired number of children, in order to maintain certain living standards. (Amac et al. 2010)

Amongst other European countries, Finland is also facing the challenge of an ageing population. Since the post-WWII fertility peak the total fertility has declined steadily, currently being 1.76. From the below chart we can see that the population is ageing fast and that the population dependency ratio is increasing. Currently the ratio is approximately 55; however, by 2060 it will be nearly 80, hence creating a heavy financial burden on the working population (see Figure 1).

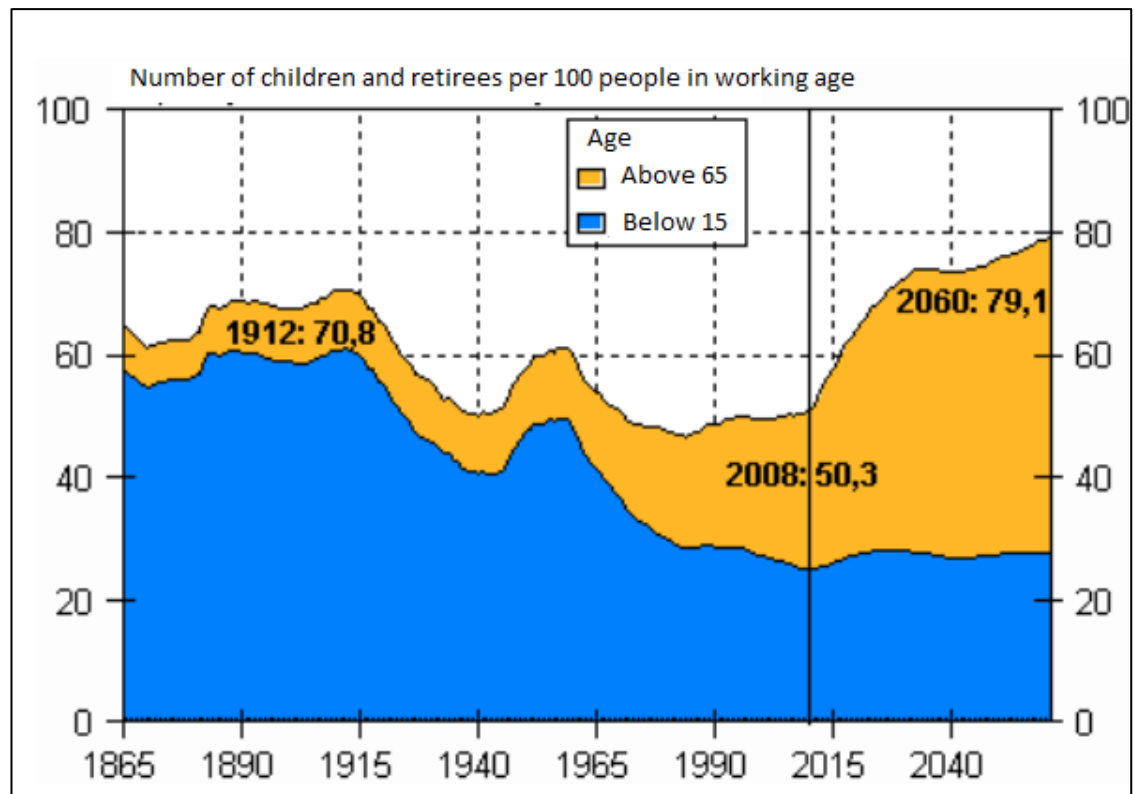


Figure 1. Finland: The dependency ratio of the population 1865-2060. Tilastokeskus 2009b.

This thesis investigates the causes and consequences of the low fertility rate in Finland. We will approach the issue in three sections; firstly setting a basis for discussion through existing literature on economic and non-economic theories and examples; secondly examining the current situation in Finland based on the discovered theories; thirdly discussing possible outcomes, scenarios and governmental policies having positive influence on fertility rates, hence, slowing the ageing of the population.

2 Importance of fertility rate

"Tracking trends in fertility and birth rates is essential in planning for the current and future needs of multiple generations (Child Data Bank, 2013 p. 2)". The Child Data Bank (2013) well defines the importance of a country's fertility rate. It is highly important to have a clear knowledge of a country's current fertility rate and of the possible increasing or decreasing future trends. Sustained high or low fertility rate can lead to unbalanced age structure within the population causing economic and infrastructural pressure for providing necessary services and financial support to the over presented age group.

Feyrer et al. (2008) have two ways to define the fertility rate within a country: *total fertility rate* and *completed fertility rate*. In simple terms *total fertility rate* can be defined as how many children are born annually per woman of child-bearing age. The child-bearing age can be defined for example as 15-45 years. High enough fertility rate is important for the existence of a nation. Fertility rate of 2.1 per woman is needed in order for the population to replace itself in developed countries. Infant and child mortality is taken into consideration in the number. In developing countries the rate replacement rate is higher due to higher infant and child mortality. (Feyrer et al. 2008; Espenshade et al. 2003)

The second concept is called *completed fertility rate*. It calculates the *number of births per woman for women who have completed their child-bearing age* (Feyrer et al. 2008, p. 8). Using this method, the birth rate is compared by the year when the mother has been born. For example, we can say that in a country X a birth rate of a woman born in 1920 is 2.8, however, women born in 1960 obtain birth rate of 2.1. In this thesis we will use the total fertility rate as discussion point.

Many different factors influence the fertility rate of a country therefore creating a challenging environment to manage the implications of high or low birth rates economically and politically. This section will firstly discuss determination of fertility rate and secondly the relation of age structure and population growth to economic growth. Thirdly, we will discuss the cultural and non-economic factors affecting the total fertility rate of a country.

2.1 Determination of fertility rate

In this chapter the research attempts to define different factors influencing fertility. We will discuss the different economic factors as well as the importance of culture and value. The research attempts to challenge some of the set norms that are seen as the main influencers of fertility.

2.1.1 Fertility decline

There are two primary models explaining the relationship between economic factors and fertility. Both models assume that there is a fundamental positive relationship between fertility and income and both of them challenge the explanations of negative relationship that which has been observed as relatively new theory. The driving force behind these two theories is fundamentally different from each other. The two models are called the "price of time" model and the "relative income", or the Easterlin, model. (Macunovich 2007)

Often the economic models treat family planning similar to purchasing consumer goods (Macunovich 2007). Due to the fact that human beings are not rational (Berreby 2012) many non-economists argue that children cannot be compared to goods; in unsatisfactory situation a consumer good can be traded, however, the same does not apply to children (Becker 1960 cited in Macunovich 1998; Becker & Lewis 1973 cited in Macunovich 1998). A purely economic approach does not take into consideration irrational human qualities such as love and affection between partners and towards children and family ties. Human irrationality limits purely economic theories and therefore these theories should be questioned (Ariely 2009).

There are five (5) different factors associated with the decrease in fertility in developed, so called Western countries. These factors are considering especially 1900s and the 2000s (Feyrer et al. 2008). According to Galor (2005) increased demand for human capital increases the desire to produce high-human-capital children ("quality" over "quantity"), therefore leading to demographic change.

According to Becker (1981) positive income development increases the opportunity cost of women and men in relation to work, family and spare time. Female participation in labour force is increasing steadily which also has an effect on fertility. (Mira and Ahn 2002). Decreasing infant and child mortality (Feyrer et al. 2008) and access to effective contraception (Goldin and Katz, 2000) also have an effect on demographic change.

The following chapters attempt to examine how influential these factors are in terms of fertility and demographic change. In addition, fertility enhancing governmental policies and non-economic factors are also taken into consideration in the research.

2.1.1.1 Demand for human capital

Together with demographic change (decreased fertility), technological change has increased the demand for higher human capital within the labour force. Employees are constantly trained and at least in theory government investment into human capital development per person has increased. Since the work force growth is slower and the investment in training and education is higher per person, the human capital per person increases (Lee & Mason 2010).

“Quality” over “quantity” thinking in family planning is highly affected by demand for high-human-capital (Galor 2005). In developed countries childhood mortality has decreased significantly during the 20th century. This has resulted a way of thinking where parents do not have to plan to have more children than is actually desired in order to compensate a sudden death of a child (Kabeer 2000).

High fertility within a household leads to lack of time invested into developing human capital per household member. On the other hand, higher fertility rate within a household also dilutes the human capital per household member due to lack of resources to support the development of human capital (Chu et al. 2009). If parents can fully invest the planned resources per child, they can potentially increase the human capital and meet the demand of society and the labour market. According to

Galor (2005) the increasing demand for high human capital has higher influence on demographic change than pure child mortality or economic effects.

2.1.1.2 Rising income and opportunity cost

Opportunity cost arises when a decision to use excess resources arise. The opportunity cost is the value of the next best alternative option of multiple choices of equal cost (McLaughlin & Taggart 1992). With regards to fertility rate per household, the parents decide how to allocate the available resources, hence wage income, between own consumption and investing in children. To maximize the efficacy of spent income on consumption and human capital the household needs to decide the optimal number of children (Kabeer 2000).

Despite the fact that income inequality is increasing in the world, the general income level has risen significantly over the last 30 years (Inequality Watch 2014). Purchasing power is still rather weak in some western countries due to wage levels and high taxation (Martikainen 2012) yet the real income level is significantly higher than for example in the 1980s (Tilastokeskus 2010; Figure 2). A comfortable life has become important in the developed countries (Macunovich 2007) and often this is a quality factor that households do not want to compromise (Promislo 2013). According to Promislo (2013) some people are willing to compromise even their social relationships for work. If having children is seen more as a burden than a quality additive, family planning might be postponed to the future or terminated completely.

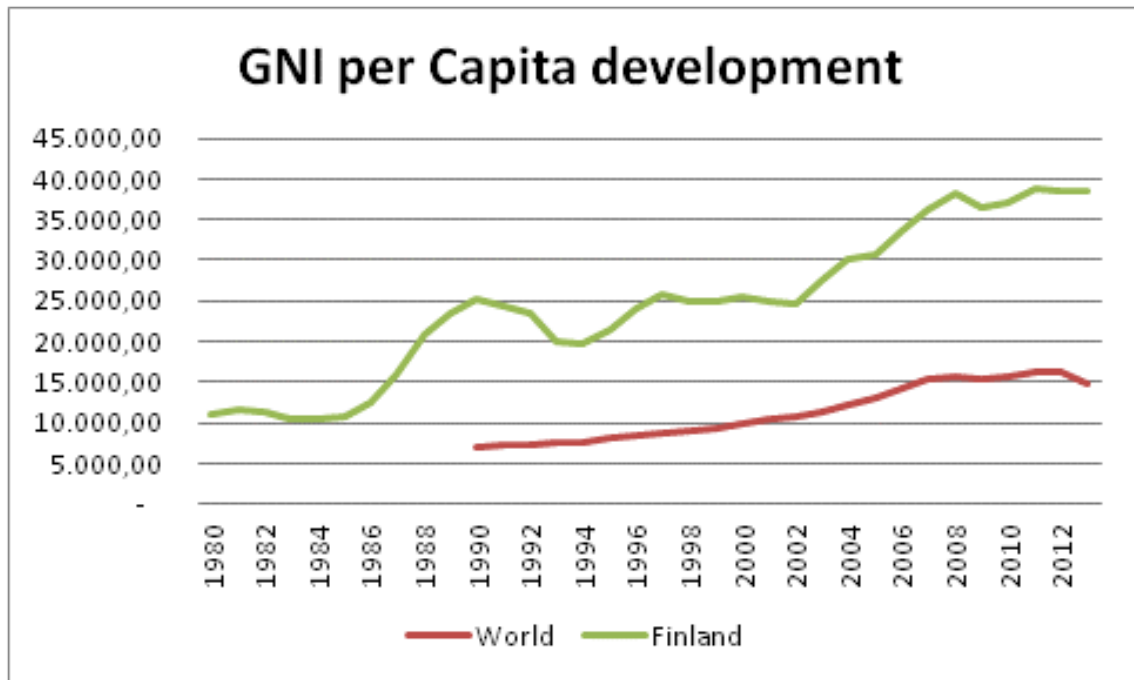


Figure 2. Real income development of Finland vs. World 1980-2013. Purchasing power has increased significantly since 1980. World Bank 2014b.

2.1.1.2.1 Fertility during recession

It has been shown in several studies that income generation and fertility are linked to each other (Micevska 2002). When income level decreases at the national level due to recession, the government cannot strongly support parenthood and human capital development with incentives such as child care. When the income level declines at household level the prospective parents cannot invest the desired amount of resources in children (Chu et al. 2009). Most families decide to postpone family planning for a more prosperous time period.

By postponing family planning the household takes the risk of not achieving the desired number of children. Women especially suffer from this scenario, since the child-bearing age is limited for females (Niemeläinen 2013).

There have been cases where recession has boosted total fertility (Niemeläinen 2013). However, the argumentation for it has been that the government incentives, such as child care and financial support, has not declined per household and therefore the economic situation of a household has not lessened due to recession. In other words,

having children has been affordable. We can assume that if due to recession the government incentives are cut down, the total fertility rate decreases.

2.1.1.2.2 Poverty

When birth rates are high in a developed, high-income nation, we often associate the high fertility with poverty. The difference to developing nations, however, is that the developing countries often have relatively high childhood mortality rates which are compensated with bearing more children. This is not the case in developed countries (Ritamies 2006).

It is true that often rural parts of a country have higher birth rates compared to those of urbanized areas. However, it is not poverty increasing fertility rates, but the different lifestyle of rural areas. The lower the mobility of society is the higher is the fertility rate due to the "lack of options" in life. Since the fulfilment of urban lifestyle is not present in rural areas, the gap is often filled with establishing family (Coontz 1998).

2.1.1.3 Female participation in labour market

Female participation in labour market is often seen as a cause for lower fertility. The assumption is that the higher the percentage of females working, the lower is the fertility rate. There is also a counter argument stating, that since fertility rate decreased women were able to participate in labour force (Macunovich 2007). To support the first hypothesis, an existing research conducted by Feyrer et al. (2008, p. 10) concludes that *"a ten-percentage-point increase in female labour force participation is associated with 0.45 fewer children per women"*.

However, recent studies show that by 2000s the developed countries with higher female participation rates have experienced a slight increase in the birth rates (Macunovich 2007). The change can be explained by the following two hypotheses:

- 1) Attitudes towards women as labour force participants and child caregivers have changed therefore affecting the fertility rates. When women are accepted in the labour force as equal to men, therefore social norms drive the fertility (Bbaale 2011; Easterlin 1975).
- 2) Developed countries can offer better incentives for families having children, i.e. day care services (Milligan 2002).

Bloom et al. (2010) argues that when countries adopt new social norms and behaviours, fertility will increase as a result of an efficient combination of motherhood and female participation in the labour force.

2.1.1.4 Infant and child mortality

As stated before, in developing countries the fertility replacement rate is higher than in developed countries (2.1) due to higher infant and child mortality (Feyrer et al. 2008; Espenshade et al. 2003). According to Casterline (2001) the explanation for the surge in population is that initially mortality rates decline and then stimulate a decline in fertility rates. In developed countries the child mortality is relatively low, hence resulting in lower birth rates (CIA World Fact Book, 2014a & 2014b). If the child mortality would increase in developed countries, we could assume an increase in the birth rate as well.

2.1.1.5 Contraception

The importance of family planning, in other words usage of contraceptives, has been argued to have a great effect on fertility rates (Casterline & Feyisetan 2000). Inevitably the easy access to birth control has affected family planning; however, it can be argued that other factors are more important with regards to total fertility (Koehler 2012). Contraception should be treated rather as a non-economic, than as economic, factor due to its culture and value based relation.

2.1.2.6 Non-economic factors

Many of the non-economic factors are listed under “changing values” (Retherford, Ogawa & Sakamoto 1996). These factors can for example be increasing individualism, religious values, importance of marriage, importance of materialism in a consumer society (which can be argued to be also an economic factor), improved family planning and birth control, and the wish for “quality” over “quantity” in children (Fernández & Fogli 2009, Macunovich 2007).

Many of the factors discussed in the following chapters often change according to economic condition and typically a baby boom is explained by economic fluctuation within longer term trend. Although there are non-economic factors influencing fertility, children are still considered as an “investment” in which the parents are investing their scarce resources hoping for future returns i.e. in terms of high human capital or as care giving when parents are older (Kabeer 2000).

Culture and values drive the society as a whole (Nayeem 2012) and they largely influence daily and long-term decisions (Smith et al. 2002). There are many cultural and value-based factors influencing the decision on having children, and more importantly the number of children (Fernández & Fogli 2009). For example, often people are influenced by their social network, i.e. parents and friends, on the ideal quantity of children. In this chapter we will shortly discuss the most important factors considered as affecting fertility.

2.1.2.6.1. Marriage

In western societies marriage has lost some of its societal and religious value, and is considered as an individual choice. Marriage is a legal institution between two parties. In most of the western countries it is acceptable to have children outside of marriage. Marriage is often entered to secure the family in case something sudden, i.e. death happens. Unlike 100 years ago, marriage is not as desirable or regarded as sacred. Especially for young women marriage is not anymore the only purpose of life and only achievement worth reaching for (Crabtree 2004).

Value of independence has increased significantly since the beginning of 1900s (Bordin & Anderson 1993; Stevens 2008). Dependency on another person financially is seen as a weakness and undesirable situation in life. Postponing marriage, hence establishing family, to later age is a common procedure since marriage is not sought to establish financial stability (Goudreau 2010). Individuals also study their environment and social connections in order to establish a common view on marriage and family (Becker 1981)

It is also fairly common in western countries that either one of the parents stay at home to take care of the children. If staying home with children is seen as compromising individual freedom, there is a tendency for postponing establishing family due to time for self-actualization (Mills et al. 2011). Individualism does not directly affect the desired number of children. However, if individualism encourages postponing child bearing until late age, it also poses a risk of not reaching the desired number of children due to personal fertility (Hirshfeld-Cytron 2013; Hammarberg & Clarke 2005).

2.1.2.6.2 Gender equality

Gender equality has brought many opportunities to women educationally and work wise. As discussed before, female participation in the labour force decreases total fertility (Macunovich 2007). However, if gender equality is taken from work and education to households as well, we can see a modest increase in the birth rates. The male participation in household production is relatively high in Scandinavian countries and in the Netherlands. Despite the fact that the female participation in labour force is relatively high, the birth rates are in slight increase (Feyrer et al. 2008)

In high-income countries where the child care burden falls mostly on the mother, the fertility rate is relatively low. These countries include for example Germany and Spain (Kreyenfeld & Karsten 2000; Hank & Kreyenfeld 2009; Borra & Palma 2009). In addition to high male participation in household production the fertility rate is positively affected by the amount of government subsidies directed to families to assist them and encourage fertility (Feyrer et al. 2008).

2.1.2.6.2 Governmental policies

Maternity leave is an employee benefit, paid time-off, from work due to having a child (KELA 2014b). The length of maternity leave varies from country to country (Figure 3) USA being the only OECD country with no guaranteed paid maternity leave. According to a research conducted by Feyrer et al. (2008, p. 14), paid extra weeks of maternity or paternity leave has an insignificant positive effect on the fertility rate. Averett (2001) states that access to paid maternity leave could potentially increase fertility; however, in countries where paid maternity leave is already a benefit, a more important factor for total fertility seemed to be the existence of a female-friendly labour market and the ability to establish a family while working.

Government spending on families with children has a more significant impact on fertility. Especially access to child care reduces the opportunity cost of having children due to the risk of falling out of the labour market (Adserà 2006; Averett 2001; Feyrer et al. 2008). It is a growing trend in Europe due to the demand for empowering work conditions for women, that the governments are setting up enhancing policies to meet the demand (Becker 1981). It is extremely important to gradually build these policies, since they have been proven to have a positive effect on fertility in the OCED countries (Averett 2001; Feyrer et al. 2008).

Feyrer et al. (2008) argues that gender equality contributes to a positive fertility rate. If we want to investigate even deeper into the topic, it is in fact the contribution of the male partner into childcare. The closer the division is to equal, the higher the fertility rate of that household, and by extension country, is. The question of equality is naturally a cultural question (Schalkwyk 2000); however, culture can change through learning. For example in Scandinavian countries the current female employment rate is high (World Bank 2013b), which means that families have found alternatives for traditional child care (mothers staying home with children) i.e. equal contribution between partners or usage of day care services (Haas 2003).

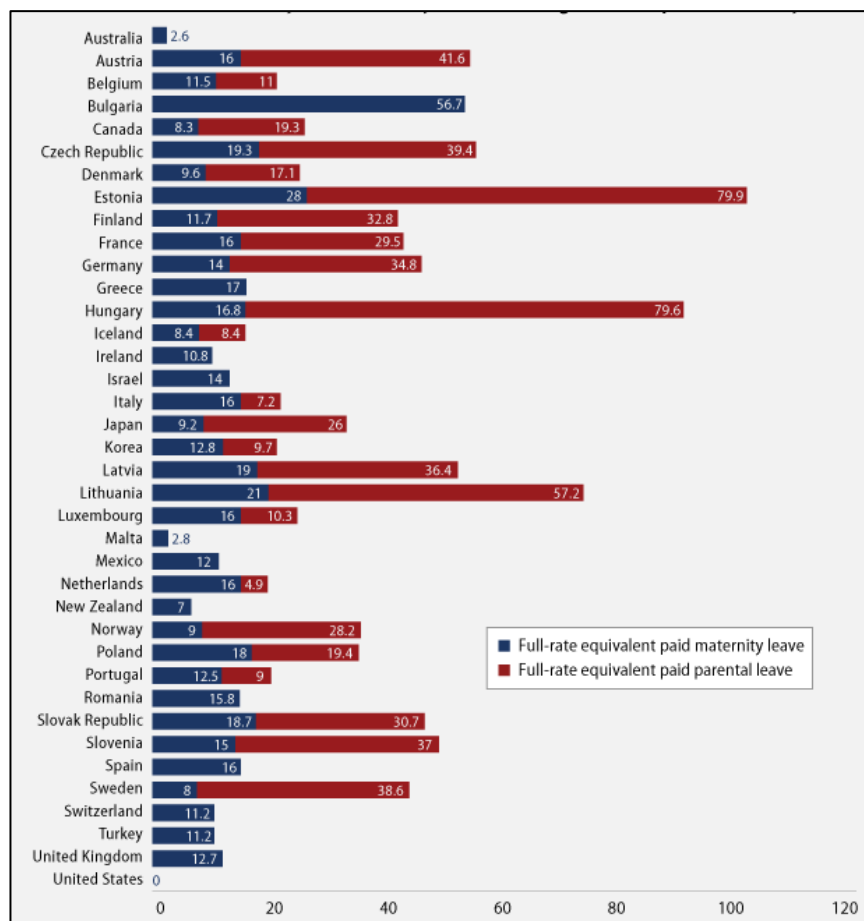


Figure 3. Paid and unpaid maternity leave in OECD countries 2013. Glynn & Farrel 2013.

Financial situation is clearly a big contributor to a household's fertility at individual and national level. The financial support from government is seen as positive influence to fertility, however, there are always arguments against it: whether it is the tax payers' responsibility to "fund families", or if the child support has a real effect on fertility (Ebenstein et al. 2011). A country needs new taxpayers, however (Clarke & Strauss 1998), and therefore we can argue that it is in everyone's interest that regeneration happens. An example from France (Moore, 2006) shows that government incentives can be very successful in increasing fertility rates. In 20 years the child support grew 70% from \$1,793 per child in 1980 to \$3,056 in 2000. Together with a social multiplier effect (Maurin & Moschion, 2006) the increase resulted in a fertility rate growth from 1.85 to 2.03 (World Bank 2014a). Social multiplier happens where individual decision making is indirectly affected by the implemented policy through social influence by peer groups (Glaeser et al. 2002, p. 1). In other words, individuals who have not directly adapted a certain policy might still make the desired decision,

however, indirectly influenced by social groups that have already adapted the implemented policy.

2.1.2.6.1.4 Materialism & life satisfaction

The influence of materialism in relation to family set up has not been researched on a larger scale and its influence on the decision of having children should be carefully considered (Promislo 2010) However, the concept of materialism has been studied in relation to marriage and life satisfaction, both of which can be linked to having a family (Li et al. 2011).

Firstly, people who are satisfied with their lives are more likely to get married, and stay married, in addition to being more optimistic regarding future life events, such as having children (Lucas and Clark, 2006; Lench 2009). Secondly, according to Richins and Dawson (1992) there is a lower life satisfaction amongst materialists. In addition to many psychological and social problems (Zhou & Gao 2008 cit. Li et al. 2011) also general dissatisfaction with life is considered to cause a materialistic coping response (Li et al. 2011).

Even though a verified relation between voluntarily childless individuals and dissatisfaction with life does not exist (Burman & de Anda 1985; Veenhoven 1974), Callan (1986) found in his research that voluntarily childless couples were more pessimistic towards life. According to Lerner and Keltner (2001) parents that are dissatisfied with their lives also wanted to have fewer children due to different uncertainties, including economic.

2.1.2.7 Conclusions

As seen above, many different factors influence the decision of a household on having children. At some level, all the different factors are related to opportunity cost and on a theoretical basis it seems that the cost of losing economic and non-economic freedom

is higher than the gain from having children. Individuals also study their surroundings therefore giving a lot of influence for culture and social connections.

In developed countries, where a high percentage of females are participating in the labour force, the female-friendliness of the work environment and the labour market is crucial for birth rates to rise or remain at regeneration level. Gender equality also seems to play a big role, especially in terms of child care participation.

Culture and values have influence that can only be controlled to an extent; however, different government incentives such as financial support and access to child care have an influence on fertility rates. In general, the lower the opportunity cost for having children, the higher the fertility is. It seems very important that work-life is not excluding the possibility to have a family, and vice versa.

2.2 Population growth vs. Economic growth

Population growth is seen as a contributor to economic growth in high-income countries. Consumption by children, retirees and human capital investment is paid from the contribution of the labour force and companies together with state investment. The state income is allocated between consumption and human capital investment (Lee & Mason 2010). It can therefore be presumed that population growth would increase the number of people participating in the labour force; hence, more transferred contribution to state income to fund state spending.

Until the mid-1990s a view known as "population neutralism" was widely believed to be true (Frejka et al. 2008; Bloom & Freeman 1986 cit. in Flemingham et al. 2003). The view stated that there is no significant correlation between population growth and positive economic development. It is true that countries with high population growth have a wide variety of different stages of economic growth.

2.2.1 Quantity-quality trade off

Adamanti et al (2012) investigated into the original theory of quantity-quality trade off model of fertility choice conducted by Becker and Lewis (1973). There are two significant and rather obvious results of the study. Firstly, if a large part of the population is contributing to the labour force, hence is in working age, the economic output per capita increases. In theory, when the population is growing, the population in working age is growing as well, therefore outnumbering the children and retirees of which living costs are paid from the contributions of the labour force.

The second finding concerns the savings of the labour force. The savings tend to be more significant in terms of numbers compared to the non-working population. A higher number of working age people accumulates more savings which can be channelled to investments. Investments are crucial for economic growth (Jorgenson 1967).

According to Bloom et al. (2007) there are also other factors contributing to economic growth. Firstly, when the life expectancy is longer, workers tend to have a higher interest in higher savings in order to support themselves at later age. Secondly, a smaller number of children tend to increase the government investment in education per child. Higher private and public spending result in better education, therefore leading to more productive workers. Thirdly, in parallel with better education, the private and public spending can support better a smaller number of children, hence leading into better adulthood health. Better health can again lead to more effective learning and work input. Last but not least, small family sizes enable women's higher participation in labour force.

There are limitations to the quantity-quality trade off model. The model does not take into consideration physical capital, thus income being equal to the wage. The consumption of children, retirees and investments to human capital are all funded via transfers from workers only. It also assumes that all children have equal opportunities in terms of accessing education, which is not always the case (Lee & Mason 2010).

Despite some limitations the model has, we can still use the model as a basic theory to understand how fertility and economic growth are interlinked.

2.2.2 Migration as a means of population growth

As discussed in earlier chapters, fertility is seen as an important factor for economic stability and growth of a country. It can be said that in the long term fertility rates below regeneration level will affect the economic structure of a country heavily. According to Frejka et al. (2008) low fertility is not necessarily as catastrophic as it is seen sometimes. Immigration tends to contribute to the population and age structure of a country. For example in Europe the birth rates are higher amongst immigrated women due to cultural factors.

However, even though immigration contributes to the total fertility of a nation, the fraction of immigrated women tend to be so small, that the contribution remains rather small. Despite the fact that immigration policies can be challenging to implement and are highly controversial, for a country where the working age population is declining heavily versus retirees, immigration could be introduced as a solution to avoid economic slowdown. Lutz et al. (2006) even suggest that from an environmental perspective a declining fertility rate is a positive phenomenon to overcome the distress caused by a growing population.

2.2.3 Welfare impact on population growth

In high-income countries governments tend to support fertility with different types of incentives such as financial child support. Feyrer et al. (2008) argues that in most modern societies it is costly to raise children and the current level of the incentives is not sufficient to increase fertility on a larger scale. The study reveals that when choosing the number of children, most individuals are influenced by their social network, i.e. parents and friends, rather than the state incentives.

Kohler et al. (2006) states that the economic situation is one reason for postponing child bearing due to the uncertain financial situation within a household. If the financial situation is secured when having a child, it is more likely that there will be higher fertility, since it is not necessary to postpone childbearing in hope of a better economic situation (Rotkirch 2012). However, this is not the case in all high-income welfare countries. For example, Goldstein et al. (2003) argues that persistently low fertility rates, for example in Germany and Austria, are due to shifting fertility ideals. This setting can also be maintained due to insufficient support for families with children, or inability to obtain part-time work, or re-entry the labour market after child bearing.

In countries where there are relatively many children and high female participation in the labour force, there is also a tendency to create a more family friendly infrastructure even in the labour market (Feyrer et al. 2008). It is difficult to boost fertility, which is very much affected by individuals' values, with state incentives. However, Lutz et al. (2003) state that the most effective policies are the ones affecting late childbearing. As we have discussed in previous chapters, opportunity cost of having family over work has a high influence on the decision of postponing fertility until a later age. Hoem (2008 p. 256, cited in Feyrer et al. 2008) supports the hypothesis by saying that public policies can affect fertility positively, although only if they are "embedded in a family-friendly culture deliberately nurtured by the state".

2.1.3.1 Population growth and age structure Europe

During the past 50 years, the fertility rates have declined drastically across Europe. To paint the picture more dramatically, all European countries have birth rates that are below the replacement level of 2.1. The declining fertility rate is a long-term trend in Europe and even migration has not been able to fix the problem due to the existing age structure (Bloom & Sousa-poza, 2010). In Figure 4 we can examine the current and future situation within Europe in terms of age structure. As we can see, the age structure will continue to be imbalanced, if the forecast will prove to be correct.

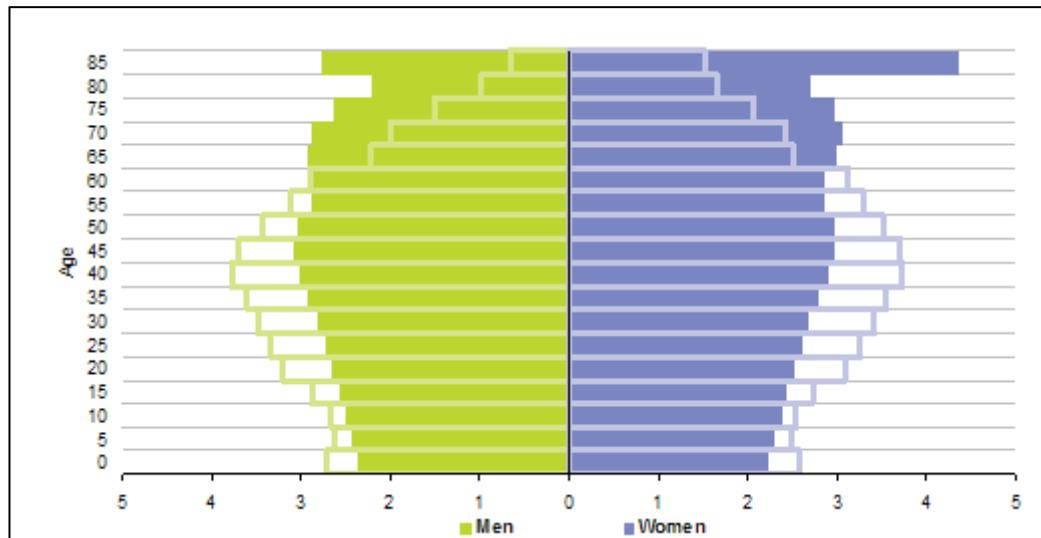


Figure 4. Age structure in Europe. Solid color resembles the year 2060. The bordered color resembles the current situation, the year 2011. Eurostat 2011.

Bloom & Sousa-poza (2010) argue that the current situation of a declining and ageing population will result in decreasing economic growth and lower standards of living in the long run. For example, often rising costs of health care are associated with an ageing population (Dittrich & Stara, 2013). The reasoning is that there is not enough labour force to cover the cost of the less productive age groups, children and elderly, in terms of taxation. However, Bloom et al. (2009, cit in Dittrich & Stara 2013) argues that the share of workers would in fact rise due to the combination of declining fertility and higher female participation in work life. Almost certainly some countries will face labour shortages due to the fact that female participation in labour is already high. An interesting question is how these countries will manage the shortage, if an increase in immigration is not politically feasible.

2.2.4 Conclusions

From the discussion conducted in this chapter, we can conclude that population growth and economic growth are interlinked. We can also see that culture and values have high impact on economic growth through fertility. Since culture and values are difficult to change short term, only governmental policies can be influenced in order to boost fertility short term.

Age structure is a long term challenge in most of the high-income countries. Post war baby boom created an age class that is currently retiring. The fraction of working population is not high enough in most countries to transfer the necessary funds to cover the costs generated by the elderly without significantly altering consumption patterns and living standards of the working population. In countries where the fraction of working population is getting significantly smaller compared to those who are not as productive, a potential short term solution to fill the shortfall is by increasing immigration. However, immigration is a very controversial topic and politically challenging to implement.

In high-income countries it is unlikely that high fertility rates will ever be reached. However, there could be potentially an increase up to the level of regeneration of 2.1. Since values can hardly be changed in the short term, avoiding postponement of child bearing is crucial. It is highly important that the labour market is family-friendly and re-entry to work life after having children is unproblematic.

3 Investigation into reasons and consequences of the fertility rate in Finland

Since the decade of baby booming in the 1940s birth rates have been in decline in Finland (Figure 5). The year 1969 has been the last year in our history, when the birth rate has been on a level of regeneration. According to Väestöliitto (2013) 60 000 babies are born annually in Finland and the rate of total fertility is 1.76 (CIA World Fact Book 2013). The level is higher than in most of the Europe (Appendix 1); however, it is below the regeneration level of 2.1. All high-income countries seem to have a birth rate below 2.0, although there are two exceptions. USA has a fertility rate of 2.6 and France 2.8, which raises interesting questions regarding the policies and cultural factors influencing the birth rate.

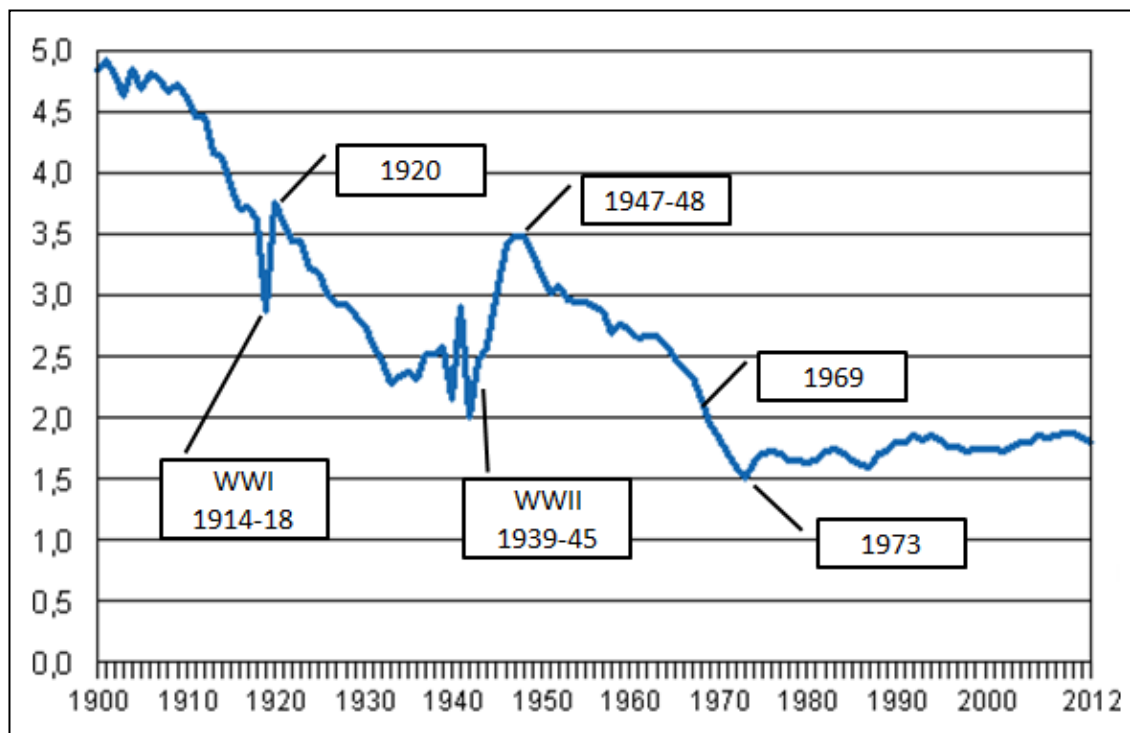


Figure 5. Total fertility rate per woman in Finland. Tilastokeskus 2007b.

We can argue that in the beginning of the 1900s the fertility rate was still high due to relatively high infant and child mortality rates (Korpi 2010 & Alanen 1994). Children were also treated in a different way compared to the situation today: in an agriculture-driven economy an extra pair of hands enabled more work to be done (Korhonen 1999).

What caused the change in the trend of large family size? We can see in Figure 5 that in the post war years, after WWI and WWII, the fertility rate has a high peak. According to Maoz et al. (2008) the post war fertility peak was a result of gender inequality and few job opportunities offered to women. In this situation the natural choice is to stay home and establish a family. Easterlin's hypothesis attempts to explain the peak with relative income theory, where in an ideal world couples marry young, have children and can match the current living standards all at the same time (Shapiro 1997). The post war world would have been therefore very close to this ideal world. According to Jutikkala (1987) the fertility peak was expected, however, the fertility rose unexpectedly high. Ritamies (2006) states that many factors contributed to post war baby boom, and the most influential of them being the fact that most people postponed child bearing until after the war and the significant decrease in infant mortality (Tilastokeskus 2010). Some argue that the fertility rose due to high devotion towards the country to produce more children to compensate the lost ones during the war (Haimi 2004). However, extensive research does not exist to prove that Finns were so patriotic and devoted to their country despite the existence of fertility propaganda.

We can agree that there are many factors contributing to post war fertility. The current age structure, and the fertility rate trend in Finland, however, is very worrying. After WWII, Finland faced a rapid restructuring and industrialisation and people moved from the countryside to urban areas. In 1920, 70% of the Finns lived off of agriculture and lived in the countryside. Today, only 90 year later, 70% of the population lives in urban areas receiving their income from different state paid and service based activities. Only approximately 4% receives their income from agriculture (Tilastokeskus 2007a). During the reformation of the living structure, family structure changed as well. In early 1900s families still had 5-6 children per family; however, living in a city and both parents working outside the home raised challenges in family planning (Tilastokeskus 2010 & Alanen 1994).

The current trend is leading to ageing of the population. The post war baby boomers are retiring, and the bill is to be paid by the younger generation. Compared to the working population the number of retirees is significantly high, approximately on a ratio of 1:3 (Tilastokeskus 2014b).

3.1 Economic circumstances and recession

As we have seen earlier, an economic recession affects fertility negatively (Talous Sanomat 2011). Families postpone childbearing, especially of the first child. However, families might have their 2nd and 3rd child sooner (Kokko 2010). During the recession in the early 1990s Finland faced a minor baby boom (Niemeläinen 2013). When the economic downturn of 2008 hit Finland many expected the fertility rate to rise (Kokko 2010). According to Väestöliitto statistics (2013 cit. in Niemeläinen 2013) the fertility was 1.8, or slightly above, during 2004- 2014 and no significant change in either direction was seen. However, a very recent article published by Väestöliitto (Miettinen & Lainiala 2014) shows that fertility has been declining since 2011 due to prolonged economic downturn (Figure 6, Perttu 2013).

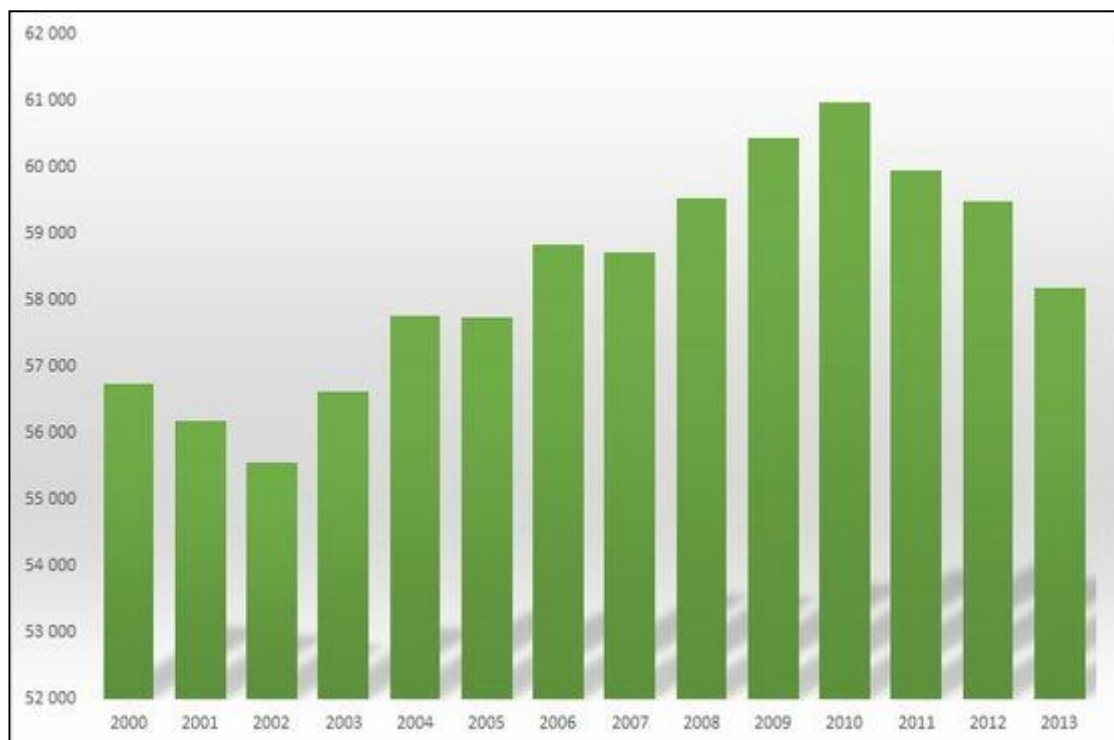


Figure 6. A graph published by Väestöliitto. Number of born children per year has declined three years in a row. YLE 2014b.

If recession should affect fertility negatively, why did the fertility rise during the 1990s recession? Niemeläinen (2013) and Talous Sanomat (2011) both agree that fertility rose due to good benefits allocated to families with children. For example, if the mother decided to stay home to take care of the child instead of using day care

services, the financial support was relatively high. In addition, it was possible to enjoy both unemployment benefit and home care allowance at the same time, therefore enabling some financial stability during recession. Today, the amount of home care allowance received is deducted from the possible unemployment benefit, hence decreasing the financial benefit received (KELA 2014a).

Let us assume that only families with no children postponed childbearing during the 1990s recession, and families with 1 or 2 children would have made the decision to have their 2nd and 3rd child. We could therefore assume that the pattern would be the same during the economic downturn of 2008, only families hesitating more over having 2nd and 3rd child. In the 1990s the median age of a primiparous was 26.8 and 28.3 in 2010. Since the age of primiparous has increased, we can assume that there are more childless women who postpone childbearing due to economic reasons than compared to the 1990s (see Figure 7). Especially women with higher education were more likely to postpone childbearing (Ritamies 2006).

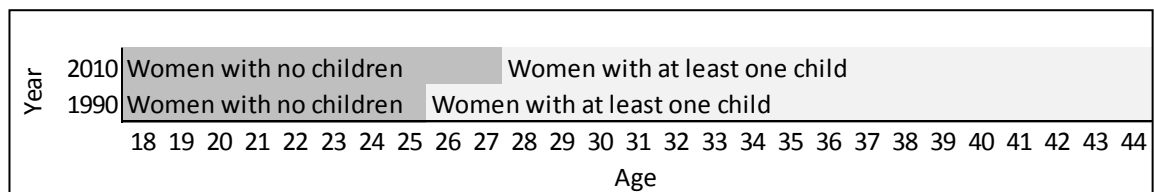


Figure 7. Figure gives a simple comparison of women with and without children during 1990s recession and the economic downturn of 2008.

3.1.1 Economy of a single household

Families tend to set the number of desired children based on what is suitable for their specific life and financial situation (Ritamies 2006). Often the financial situation of a family is challenging due to high living costs in Finland (EURES 2014). The VAT of food and clothing is high at EU level and the cost of individual car use does not come cheap either. All of these areas are consumables that families with children consumes the most.

The income inequality between families with children and the high-income class has widened over the years, therefore creating a tough environment for families to survive

in. In addition, the housing expenses have increased, which often affects the young families the most. There are government policies that relieve some of the financial burden families face. However, often these incentives and benefits are included in state budget cuts, therefore the incentives are lagging behind the general price level (Bardy, Salmi & Heino 2001).

The financial subsidies will be discussed at a later stage. For now the concentration will be on the child support and other direct financial benefits.

3.2 Governmental policies enabling fertility

Finland offers quite extensive benefits to families with children. To mention a few of the numerous benefits: paid leave to take care of the child, offered to both parents; financial support; access to child care; and affordable housing system. In this chapter we will concentrate on the most concrete ones: maternity leave, financial support and child care.

3.2.1 Maternity and paternity leave

Finnish women are entitled to have a four-month paid maternity leave and six months of parental leave (*vanhenpääntä*). The whole period is commonly called maternity leave and it lasts until the child is 9 months old. If the mother is working prior to getting pregnant, the employer is usually required to pay maximum 90% of the salary for the first 56 days, after which the state will pay maximum 70% of the salary for the rest of the time, which is minimum €23.92 per day excluding Sundays and holidays (KELA 2014b).

Father is entitled to have 54 days unpaid leave (unpaid by the employer), however, the state will pay 70% of the salary. The father is also allowed to share the parental leave with the mother (KELA 2014b). After the parental leave, both parents are allowed to stay home until the child is three years old, and the stay-at-home parent is entitled to receive a home care subsidy from the state (*kotihoitotuki*).

Compared to many other countries, Finland offers extensive benefits enabling efficient child care after the baby is born, which is meant to boost fertility. For example, USA does not offer paid maternity leave at all (The Guardian 2013). According to Feyrer et al. (2008, p. 14), lengthening the paid maternity or paternity leave will not result in a significant increase in fertility rates. A parental leave from Iceland is different from the traditional parental leave, where the mother stays home for a longer period of time and the father is entitled to have shorter leave if wanted. In Iceland both parents are entitled to have a three month-period of maternity and paternity leave, which is non-tradable. In addition parents can take another three-month-period of paid leave, which can be divided if wanted (Government of Iceland 2014). The combination of parental leaves is not lengthy compared to i.e. Finland. However, the system is not only gender equal but it has also had an effect on maintaining the fertility rate above 2.0 (Statistics Iceland 2013).

3.2.2 Childcare

Every family with children has the right to state provided child care until the child enters elementary school at age seven. The child care is not free, however: the maximum payment for the oldest child is €264 per month and for the youngest ones €238 per month (STM 2014).

The access to child care can be complicated, however. Kindergartens can be far away from home or work place which can result in long day care hours. In addition, there are no tax incentives available for using own car for transportation, if public transportation is available, even if the time used for travelling is significantly less by car than by bus, for example (Verohallinto 2014). The city of Kuhmo (2013) offered a solution to long distance driving; for separate payment transportation to kindergarten could be arranged from an area where there is already existing transportation for pupils.

Many parents decide to stay home to take care of their children. However, despite the limitations the child care might have, it enables the parents to enter labour market if wanted.

3.3.3 Financial support

The Finnish government provides financial support to each child until the age 17 irrespective of the income class of the parents (KELA 2014c). The system is graded so that the first child receives €104.19 per month, the second child receives €115.13 per month and €189.63 being the maximum that is received by the 5th child and each child after that. The financial benefit is lagging behind the salary evolution and the real purchasing power falls year by year since the benefit is not tied to any kind of consumer index (Talous Sanomat 2010; Bardy et al. 2001).

Child support is meant to cover some of the expenses families have. The graded increase is supposed to secure the financial situation of a family with many children. Family related tax benefits were relatively largely effective until 1994 after which they were relinquished and transferred to financial child support (Bardy et al. 2001).

Financial support has a strong relation to fertility, since it brings security into life where expenses suddenly increase. We can assume that the more financial support the family receives, the higher is the fertility rate, as the earlier example of France explained. The municipality of Lestijärvi shows great example of the hypothesis. The municipality offered families 1,000 euros per child per year until the child turns 10 years. In a small municipality the fertility rose from one born child in 2012 to 14 children in 2013. Even though the fertility cannot fully be explained by the financial incentive, it surely had great effect (HS 2013).

3.3 Contraception and desired number of children

In Finland, different methods have been used to control the number of children from as early as 1910 (Ritamies 2006). The desired number of children, however, was often less than the actual number of children since the birth control methods were not effective enough and men were in charge of the number of children. The modern birth control, mainly contraception pill and condoms, arrived to Finland after WWII. For the first time the means for family planning was truly available. In addition women also

became more equal in their partnerships, therefore being able to influence the desired number of children.

Interestingly, the desired number of children has not decreased as much as we would expect from the fertility rate decline between 1900 and 1990 (Figure 5). In the early 1900s Finns already wanted a relatively small family, but they did not have the tools to achieve the desire. Helsingin Sanomat (1954 cit. in Ritamies 2006) conducted a survey which showed that in 1947 the desired number of children was 3.1 and 2.9 in 1953. According to Visuri (1975 cit. in Ritamies 2006) the upper class desired to have more children than the working class. In the 1990s the ideal number of children in a Finnish family was seen as 2.5 children (Ritamies 2000, cit. in Ritamies 2006), however, the expected number of own children was often a little bit lower than the ideal.

It seems that the ideal number of children has not declined as much as could be interpreted from the declined birth rate. As we have previously discussed, contraception has affected the fertility rates. However, the number of desired children has not changed dramatically; hence, if effective birth control had been available in the beginning of 1900s the birth rates would have been lower. Today, birth control enables women to have the number of children that they have always wanted to have. Contraception, however, does affect the timing of bearing children. When child bearing is postponed to later age, achieving the desired number of children becomes more difficult and often cannot be met (Ritamies 2006).

3.4 Average family size and childless couples

According to Tilastokeskus (2012) the number of families with children is decreasing steadily. In the 1990s the number of families with children was 47% (including single parents) of total population and in 2011 only 40%. The number of children per family has not changed dramatically over the years, however (Figure 8). The number of families with two children has increased balancing the decreasing number of families with four or more children.

Year	Family total	Number of children %			
		1	2	3	4+
1950	100	39,2	28,9	15,9	16,1
1960	100	37,4	29,9	16,6	16,2
1970	100	42,5	32,8	14,8	9,9
1980	100	48,5	38,5	10,2	2,9
1990	100	44,7	39,1	12,7	3,5
2000	100	43,8	37,7	13,9	4,6
2005	100	43,2	38,2	13,8	4,8
2008	100	43,4	38,4	13,4	4,8
2009	100	43,6	38,3	13,3	4,9
2010	100	43,7	38,2	13,2	4,9
2011	100	43,8	38,2	13,2	4,9

Figure 8. Number of children in families with children (Tilastokeskus 2012a).

Yle (2011) released news relating to childless families stating that childlessness is decreasing steadily. 21% of 40-year-old women do not have children and they are not planning to have any, whereas in 1990 the equivalent number was only 15% (Talouselämä 2012). Even the number of childless families (married or domestic partnership) is increasing being 35% of all families in 2010 (Vapaaehtoisesti Lapsettomat ry 2014).

We can see that the number of families is more influential factor than the number of children per family with children in terms of total fertility rate. In order to increase the total fertility rate, the family size should increase (families with 2 or more children) or the childless parents should be encouraged to have children. In addition, actions are needed to prevent the increase in the number of voluntarily or involuntarily childless women.

3.5 Cultural factors

Pukkila (2005, p.17) talks about the importance of culture as a determinant of fertility. The modern culture emphasizes gender equality, individual freedom and self actualization. The characteristics of modern culture are a universal educational system, success based on own skills (meritocracy) and civil rights. There are also defined

measurements of modern culture: female participation in labour market, level of education, number of people living in cities and social security. According to Pearce Snyder (cited in Pukkila 2005, p. 17) the more these measurements are valued, the lower is the fertility of the nation. Ritamies (2006) and Mäkinen (2008) also emphasize the importance of cultural change in relation to fertility.

3.5.2 Labour market and gender equality

The position of Finnish women in the labour market is strong (PWC 2014). In theory the labour market in Finland is gender equal and gender discrimination is illegal (Finnish Ministry of Justice 1986). This is not always the case, however, and especially young women face gender discrimination. Employers might be afraid of the financial consequences that a pregnancy might bring along and therefore choose a candidate that is either male or older woman whose children are older (Saarinen 2014).

The worry is understandable from an employer's point of view. The employer is mandated to pay four months' salary to the mother. Even though the employer can claim up to 90% of the salary from the state, there are other costs involved which are not refunded. Often the pregnant mother needs days off for doctor visits and sick leave, which are fully paid by the employer. In addition, when the employee enters maternity leave, the employee needs to find a replacement which is a cost in terms of time and training (Nieminen 2014). In addition, the mother is entitled to return to her job prior to maternity leave.

The European Union recently made a decision with regards to paid maternity leave. It states that if the mother will have a second child while still being on parental leave, the employer is entitled to pay three months' salary according to collective labour agreement (Kokko 2014) which sounds unreasonable according to Suomen Yrittäjänaiset Ry (Nieminen 2014). True Finns (Perus Suomalaiset) politician Pirkko Ruohonen-Lerner commented on the decision that "it is worthwhile to hire young males rather than females" (Pohjanpalo 2014), which she later claimed to be irony. There is a little bit truth in the comment, however. According to Tarja Filatov (SD) the employer costs related to maternity leave can become immoderate depending on the

size of the company. She states that the maternity leave of 10 women in a company of 100 employees is very different financially than in a company of three employees of which 2-3 enters maternity leave (HS 2014a). In addition, in general the mother stays at home when a young child is sick, which generates costs to the mother's employer.

Well educated women who are in leadership roles in business world and politics somewhat agree on discrimination of mothers. Lipponen (2006) tells a story of 16 women and how they see the career opportunities laid before them. All of them agreed that it is more challenging to advance career wise if women have small children than not. A result of a research conducted by Sinikka Vanhala (2005, cited in Lipponen 2006) gave an idea of the demanding and masculine business world. 45% of the women felt guilty not being able to contribute properly to household duties. Only 10% did not feel guilty at all. Today's business world requires 100% commitment and if an employee is not able to commit to it for whatever reasons (for women it is often family) the career advancement is more challenging or even impossible.

Often women work in employment sectors that are low paid and female driven, such as nursing and teaching. These are also sectors that face constant labour shortage (Kivioja 2013, Turunen & Leino 2012, Huotari 2012). It is relatively easy to enter the labour market after establishing a family; however, the career development opportunities may be scarce. In addition, the health care sector does not change dramatically even in five years, and it is relatively easy to continue working after being on parental leave for longer period of time. The situation can be very different in constantly changing, technology driven industries, therefore creating a barrier of entry back to the labour market. In theory, the employer has to offer back the job prior to maternity leave. If the job conditions have changed dramatically and the employer sees a gap in employee's knowledge, the employer can offer something *similar* to the job prior to maternity leave (Työtuomioistuin 2013), which might not be as satisfying to the employee as the previous job position.

The father is also entitled to have paternity leave, as we have discussed earlier. The paternity leave is unpaid by the employer and is only for a maximum three months long. In case the father is not sharing the parental leave with the mother, there are no significant costs involved from the employer's point of view. In Finland the number of

fathers using the whole three month period is still rather small (KELA 2010), which decreases the overall cost even more.

Women striving for leadership roles might face difficulties if they become pregnant or they have small children at home. Job positions that require 100% commitment and flexibility are often filled with employees with insignificant or no family liabilities. A woman with a family can be seen as a financial risk, either by having more children or staying home when the existing children are sick. Leadership roles are also more difficult to replace if required skills are scarce in the labour market.

3.5.3 Gender equality in household duties

Scandinavian countries and Finland enjoy high gender equality (Zahidi 2013). For example, female participation in the labour force is 56% in Finland (World Bank 2012). As more women are working outside of home, it is often seen as unfair that women alone would take care of the house and children in addition to their work. Division of household duties between two partners is a cultural phenomenon, and the split is more equal as the gender equality increases in general (Pukkila 2005 & Ritamies 2006).

As discussed before, an equal split between partners in terms of child care tends to increase fertility (Feyrer et al. 2008). In her study into contemporary Russian motherhood Anna Temkina (2010 in Finnish Yearbook of Population Research) agrees that equality in household duties affects fertility, although only indirectly. She states that equality in household duties is more likely to affect the timing of having children, rather than the quantity. If women are able to have children at earlier age due to partners' contribution to child care, it is more likely that women are able to achieve the desired number of children since it is not needed to postpone childbearing to a later age.

An example from Germany is interesting: The country is highly gender equal; however, with child care the responsibility falls on the mothers and often work life is difficult to combine with the family life (Benhold 2010; Daley & Kulish 2013). Therefore, women postpone childbearing until a later age in order to establish their career, and after it

might be too late to have children (Carroll 2011). The fertility rate of 1.4 (World Bank 2013a) in Germany is one of the lowest in Europe.

The more partners are helping in child care, the more equal is the burden on employers as well. In a gender equal world this would be ideal, since it would be more challenging to discriminate only young women and mothers based on the time spent on child care.

3.5.4 Marriage

The meaning of marriage has changed a lot in Finland since the early 1900s (Ritamies 2006). Divorce used to be rare and marriage was there to last for a lifetime despite some unfaithfulness that might have occurred. Marriage was a partnership for a family, which it is still today. However, having children without getting married (common law marriage) is acceptable and ordinary. In addition, divorces are common: every year 13,000-14,000 marriages are terminated (Figure 9).

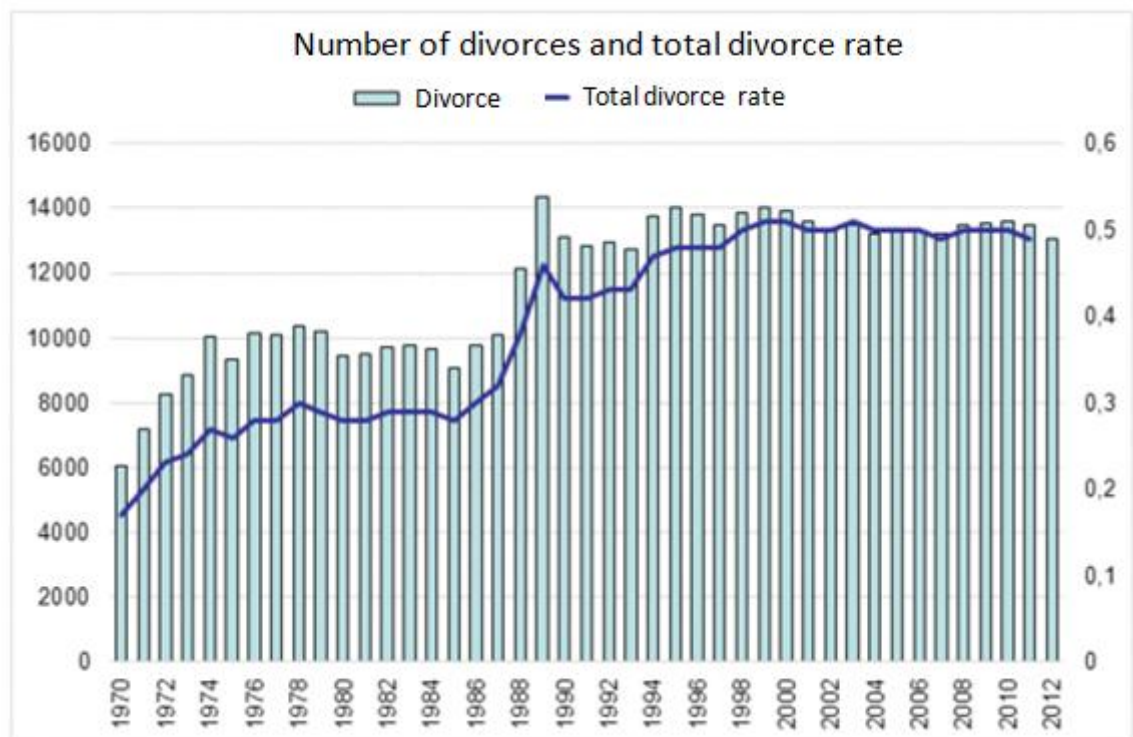


Figure 9. Number of divorces and total divorce rate in Finland. (Väestöliitto 2014a)

Often marriage is seen only as a legal partnership where the partners are entitled to the rights and benefits of a marriage. Common law marriage is common especially amongst young people (Väestöliitto 2014b), however, often when having children is timely couples get married due to legal reasons. Marriage is not seen as a permanent decision, although, it is desirable it would last for a lifetime. There is also no significant difference in the number of children per family, whether the parents are married or not.

3.5.5 Religious values

Jutikkala (1987) states that the general fertility decline is a result of a breakthrough of rational thinking rather than fading religious morals, as some may argue. It is true, that often cultures with high religious values obtain higher fertility rates. We can see some evidence of that pattern in Finland as well. The Oulu municipality in the North of Finland had a total birth rate of 2.03 in 2013, which has been the highest by far within Finland. In comparison, Helsinki as the capital of Finland had a birth rate of only 1.35 in the same year (Tilastokeskus 2013b).

The exceptionally high birth rate in Oulu is at least partially explained by the relatively high number of Conservative Laestadians, a religious sect that is part of the Lutheran church. Amongst the Conservative Laestadians it is very uncommon to use contraception and it is highly encouraged to have as many children as possible. There has not been a recent population study on Laestadionism. However, in the 1980s in Oulu municipality there was an example of a town, where 40% of the people belonged to Laestadian sect, where the fertility rate was 3.68. The total average in Finland was 1.68 on the same year (Terämä 2010 in Finnish yearbook of population research).

Despite the effect the religious sects might have on the total fertility, they are still considered as very marginal. Most of the Finnish population has obtained a modern view of family planning, where it is acceptable to control child bearing, or not have children at all (Ritamies 2006). Therefore, in this research we will rather concentrate on this part of the population, where clearly the challenge of underproduction of children comes from.

3.6 Immigration

The number of immigrants in Finland is increasing steadily (The Finnish Immigration Service 2014; Figure 10). The population growth in Finland is solely a reason of increasing immigration (YLE 2014a). On 21 April 2014 the population of Finland was 5,458,113 (VRK 2014). According to Tilastokeskus (2012b) without immigration the number of children under 15-years-old would be the lowest in 120 years. Even though the fraction of immigrants is relatively small of the total population (4.2% in 2010) the effect can already be seen in the age structure of population.

Based on the numbers we could assume that by increasing immigration, the age structural problem could be solved. Although theoretically immigration seems feasible solution, the reality is very different. The country might not have all the resources in order to rehabilitate extensive numbers of people entering the country and provide same services as the autochthonous population is entitled to. The values and opinions of the autochthonous population are also important: Large numbers of immigrants can be seen as financial and racial threat and as a financial burden on tax payers (YLE 2013b).

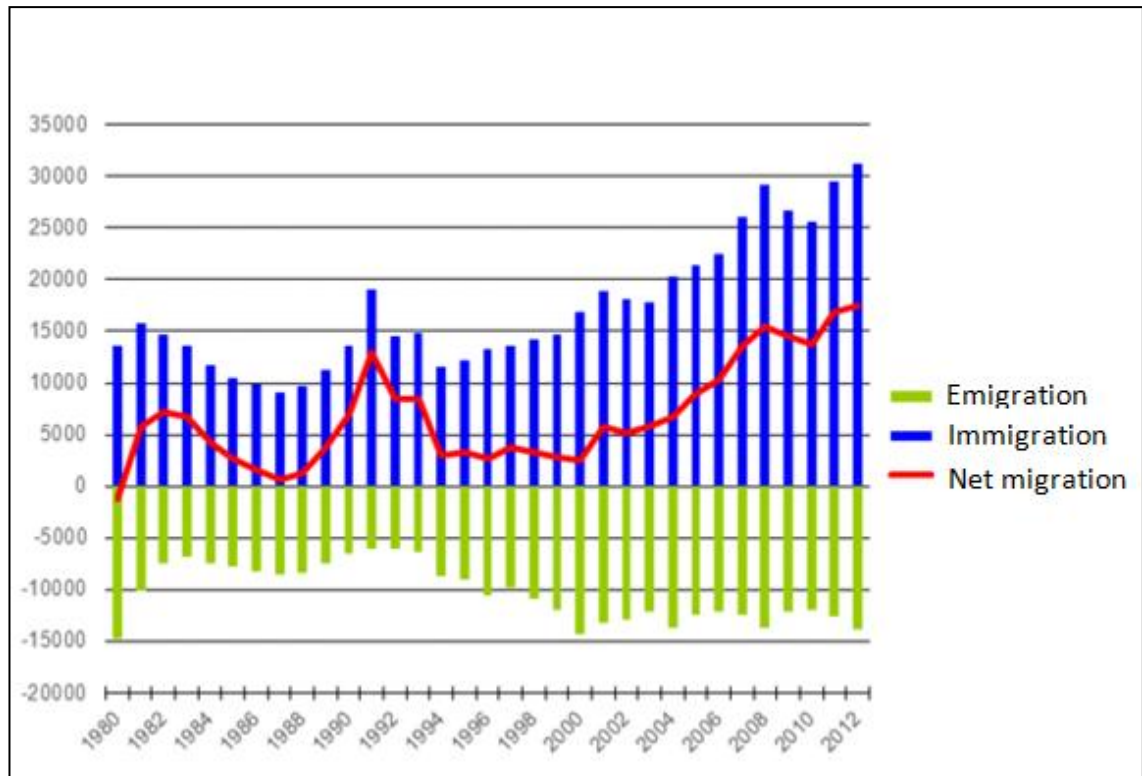


Figure 10. Immigration, emigration and net immigration of Finland from 1980 to 2012. (Väestöliitto 2014c)

Many European countries have supported their ageing populations with migration; however, politically motivated migration policies are very controversial and many countries would like to have more control over immigration, especially inside the European Union, where the laws of free movement of labour take place (European Commission 2014). Switzerland, although not part of the EU, closed its borders to free movement of people and challenged immigration policies (Turtiainen 2014). The decision is somewhat understandable since the Swiss population with an immigrant background was 34.7% in 2012 (Swiss statistics 2012). Immigration policies are controversial and difficult to maintain in the long-term. However, immigration can be the shortest way to slow-down the economic downturn.

4 Discussion

According to the Save the Children report on “Surviving the First Day” (2013) Finland is the world’s best place to be a mother, yet Finnish mothers are not having enough children. The report reflects mainly the living conditions from a child mortality point of view and the accessibility to the mother and new born child of health care. The report also touches on gender equality, but only in relation to children’s health: “When mothers are strong and stable – physically, financially and socially – their children are more likely to survive and thrive” (Save the Children 2013, p. 60).

We often discuss how well families with children are treated: the state offers day care services, minor financial and non-financial aid, education and paid parental leaves to ensure that the baby gets the needed attention. We assume that as long as the child is taken care of the mother is happy and satisfied as well. This is not always the case, however. If the mother has to make a choice between her career and a family, instead of having both, the opportunity cost of choosing a family might be too high. If a young woman is about to enter the labour market the first time, the decision of having children now and not gain any work experience over the following years is easily overrun by the decision of gaining work experience first and postponing childbearing at later age.

We have seen that traditional or religious values rarely guide the decision on having children in high-income countries. Family planning is more common than not and birth control is available to everyone – and its use is encouraged. Therefore we can assume that the most influential factors are social circumstances and individual values. These can be freedom socially and financially, ability to work while having a family and the contribution of the partner on child care. In general, women want to enter the labour market soon after having children (STT 2014), especially those with higher education and good employment position. According to the union of Finland’s economists (Sefe 2012) it is crucial to return to work life relatively fast in order to gather work experience and sustain salary evolvement. Jyrki Katainen, the Prime Minister of Finland, stated that long time periods away from work will significantly weaken women’s position in labour market (Kauhanen 2012).

4.1 Childless women and typical family size

The number of childless women in Finland is increasing, as discovered in the research. There is an involuntary and voluntary childlessness of which the latter is growing steadily. We discovered that the number of children per family has not changed drastically since 1950. However, the number of families with children has decreased, being only 40% of the total population. It is important to boost the fertility in families with only 1-2 children, although the true challenge is the increasing number of voluntarily childless women.

Often the opportunity cost of having children is too high when compared to the financial and social freedom that childless families have. Many women in leadership roles have told that man-like-women succeed in the business world, whereas mothers are seen as less competitive. 100% commitment is required for career advancement and motherhood can be seen as a limitation, since family overrules career. For a career oriented woman this is too big a risk to be taken. It is highly important to enhance policies that enable combining career and family. These policies could prevent women postponing their childbearing until late age when it is challenging to meet the desired number of children. In addition, there could potentially be a positive effect on voluntarily childless women, if they do not need to compromise their freedom over the family.

4.2 Female participation in labour force

We can see that female employment before and after having children is one of the most important factors contributing to fertility. We have also seen that companies might have negative perspectives towards young childless women, as they are afraid of possible pregnancies and the related financial costs. It can also be challenging to enter the labour market again after having children. If the mother is the primary care giver in the family, upon a child's sickness the mother will be off from work therefore creating a cost to the employer. Maternity and parental leaves are long, and costs for employer can become high, especially if the employer is a small company with few employees. Financially it is more secure to hire males.

According to Lipponen (2006), women need to "act like men" in order to be fully accepted in the work society. A mother can rarely be "a man". The experience of a mother is not often valued: Lipponen describes that a person who attempted to enter school in order to study to be a kindergarten teacher did not gain any points in the exam of her 10 year childcare experience as a house wife. The explanation was that her own children are different from others. It is interesting why 24/7 job as an organiser and multitasker is not valued, but military training at officer level is seen as a good way to enter leadership position in business world, at least according to Björn Wahlroos, who is chairman of the board in many multinational Finnish companies (Karttunen 2006).

4.3 Financial situation of a household

The traditional view is that women should stay at home and take care of children instead of working. Salary inequality between men and women supports this view point: Often the mother stays home to take care of the children since the father likely has a higher income which is needed to support the family financially. This is not the case in the modern world and is less likely to be changing in the future. More likely the female participation is rising due to a shortage in the labour market after the baby boomers retire (Bloom et al. 2009, cited in Dittrich & Stara 2013). In addition family sizes are getting smaller, hence enabling women to enter the labour force after having children.

If mothers can work while having children, the financial situation of the family will be better than if the mother is staying at home. However, if the income of the family is not high, having children may become costly. Therefore it is important that the state supports families financially. As we have seen in the research, higher financial subsidies support fertility. During an economic downturn, financial stability is crucial. Even small changes, not to mention unemployment, may result in postponing childbearing. The recent cuts made in the Finnish child support (Sutinen 2014; HS 2014c), together with different tax increases, will most likely have some impact on fertility. For low-income families even the small cut can be significant, such as in terms of children's activities (HS 2014b) or even food.

In comparison, Germany decided to increase the child support (Rajamäki 2014) where financial aid is available up to the child's 25th birthday (in Finland only up to 17 years). Even though parents' maintenance liability ends when child turns 18 years, parents often support their children through their studies. The German child support prevents possible financial burdens arising from the scenario that now applies to Finland.

4.4 Parental leave and employment challenges

The more family friendly the labour market is, the higher fertility is since it is easier to combine employment and family. As long as fertility is a burden on employers of the mothers, the labour market will treat young women unequally. Therefore it is crucial to bring the responsibility of parents closer to equal in terms of child care. The government prepared a law where parental leave (after maternity leave) is required to be split between parents. The payment for parental leave is minimum of €23.92 per day (Saturdays are included) and it is progressive according to the parent's income, and who is on parental leave. The maximum payment is €113.82 for earnings of €60,000+ per year. Even with the highest grade the payment is approximately €2950 per month which is €2000 less than the monthly salary. It is clear those individuals who are highly dependent on their partners' higher income will suffer from the arrangement.

The model from Iceland is a potential solution. Both the mother and father are required to take care of their new born child after birth. Parental leave is divided into three sections where both parents take turns in taking care of the child. The first two of the three month periods are required to be taken off by both parents. Normally the mother takes care of the new born for the first three months, and the father the next three months. After six months there is an opportunity to take another three-month period off. This period can be used by either parent or split in a desirable way. All three periods are paid with 80% of the salary of the parent on parental leave. In case it is wanted, the parental leave can be continued without a pay.

The system used in Iceland enables gender equality in child care, but most of all, it prevents young women from labour discrimination since both parents are equally a

cost to employers. In addition, the system prevents a fall out from labour market, which may occur if the employee is too long away from work. This is especially the case with highly technological and constantly changing industries.

4.5 Cost of living and taxation

Many studies show that the economic situation of a nation and individual household affects family planning. Low-income families are the households with the least spare income and when the economy is in downturn, families often cut back from extra consumption. In addition the uncertainty of employment and constantly increasing prices are shadowing purchasing decisions.

Constant VAT increases and other tax implications hit the families with children the hardest. Food is a necessity and a family of four certainly consumes more food than a family of two or single households. It is true that single person households pay more in terms of food and housing per person, since they cannot buy in bulk. However, families buy more in quantity due to the number of people in the household, therefore increasing the money spent per household. VAT increases for food therefore affect the purchasing power of a family more than a single person.

The private ownership of cars has been discussed for a long time, and politicians continually try to find ways to reduce driving in cities. The public transportation infrastructure in Finnish cities is extensive. However, especially in capital areas the distances by public transportation might take a surprisingly long time. If a family has small children that are in day care, it is almost necessary to have a private car, in cases where the day care location is not within walking distance. This has not been taken into account in taxation or gasoline prices and driving has therefore become an expensive necessity. Long distances are an even more influential cost outside of cities where distances are long and public transportation is not necessarily available at all.

In 1994 the Finnish Government transferred all the current tax incentives allocated to families into financial child support. Since then the child support has been lagging behind the general salary development. Since financial support is crucial to families,

especially those with low income, the tax incentives might be more effective than direct financial support. For example, Germany allows couples to claim joint income taxation, where both partners' income is calculated together and then divided into two (Constitutional Court of Germany 2014).

This has been the case in Finland in the past as well, but the Government moved to individual taxation, since it was seen that the household tax discriminated the party who earned less. The split taxation could be voluntary for families, and it could guide the family through the time when children are small. A short calculation demonstrates the effect of the split taxation: The working parent earns €50,000 per year and the partner staying at home earns nothing. The tax percentage of the working partner is 32.5% and therefore the person pays €13,250 in tax annually. If split taxation is used, the income for both parents is then €25,000 per year and the tax percentage 15.0%. Both parents would therefore pay annual tax of €3,750, hence €7,500 combined which is €6,000 less than tax paid at individual tax rate. Clearly €6,000 contributes to the purchasing power of the family in question.

4.6 Can immigration fix the current age structure?

Why do we need to boost fertility to exceed the required 2.1 regeneration level? Are there other ways to overcome the shortage of working age population and therefore provide all the necessary services to less productive fractions of the population, hence, children and retirees? With migration policies the country can potentially increase the number of those in the working class. For example, Germany is facing drastic fertility decline and migration policies are used to boost the number of people in the working population (Deutsche Welle 2014). However, the recent example from Switzerland shows that there is only a limited number of immigrants the autochthonous population will endure. Therefore immigration alone cannot be a solution to ageing population

4.7 Limitations of the research

The main limitation of the study is the lack of qualitative data on the values and attitudes of Finnish families. The research was solely conducted based on existing

literature and there are surprisingly few extensive studies available on the fertility rates in Finland. The area of fertility is also very broad and it is unfeasible to include all the relevant aspects and influences in a study such as this. A proper amount of qualitative data could have deepened the knowledge on the underlying reasons of low fertility, especially of voluntarily childless women.

In the research we discovered that culture and values have a big role in fertility. Therefore comparison between different nations and their governmental policies can be misleading because of the cultural differences. In further research it is important to make a proper comparison between countries with similar culture and values, and how policies from different culture base could fit into another specific culture.

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Appendix 1

Fertility rates in Europe and North America. Source: CIA World Fact Book 2013.

Rank EU, NA	World Rank	Country	Children born per woman in 2013
1	90	Kazakhstan	2.38
2	110	Turkey	2.10
3	116	Greenland	2.08
4	117	France	2.08
5	121	United States	2.06
6	128	Ireland	2.01
7	133	French Polynesia	1.97
8	136	Gibraltar	1.93
9	137	Azerbaijan	1.92
10	140	United Kingdom	1.90
11	142	Iceland	1.88
12	154	Netherlands	1.78
13	159	Norway	1.77
14	161	Luxembourg	1.77
15	162	Australia	1.77
16	166	Finland	1.73
17	167	Denmark	1.73
18	171	Liechtenstein	1.69
19	174	Jersey	1.66
20	173	Sweden	1.67
21	176	Belgium	1.65
22	178	Russia	1.61
23	179	Macedonia	1.59
24	180	Canada	1.59
25	182	Saint Pierre and Miquelon	1.55
26	183	Moldova	1.55
27	186	Malta	1.53
28	187	Switzerland	1.53

29	188	Monaco	1.51
30	189	Portugal	1.51
31	190	Albania	1.49
32	191	Spain	1.48
33	192	San Marino	1.48
34	193	Belarus	1.46
35	194	Georgia	1.46
36	195	Cyprus	1.46
37	197	Croatia	1.45
38	198	Estonia	1.45
39	199	Bulgaria	1.43
40	200	Germany	1.42
41	201	Austria	1.42
42	202	Serbia	1.41
43	203	Italy	1.41
44	204	Hungary	1.41
45	205	Greece	1.40
46	206	Armenia	1.39
47	207	Slovakia	1.39
48	209	Andorra	1.37
49	210	Latvia	1.34
50	211	Slovenia	1.32
51	212	Poland	1.32
52	213	Romania	1.31
53	214	Czech Republic	1.29
54	215	Ukraine	1.29
55	216	Montserrat	1.28
56	217	Lithuania	1.28
57	218	Bosnia and Herzegovina	1.25
58	220	British Virgin Islands	1.24

